



## NIH PUBLIC ACCESS

## Author Manuscript

*J Res Adolesc.* Author manuscript; available in PMC 2012 June 1.

Published in final edited form as:

*J Res Adolesc.* 2011 June ; 21(2): 448–460. doi:10.1111/j.1532-7795.2010.00681.x.

## Understanding links between punitive parenting and adolescent adjustment: The relevance of context and reciprocal associations

**Kathleen M. Roche, MSW, PhD,**Johns Hopkins Bloomberg School of Public Health, Department of Population, Family and Reproductive Health, 615 N. Wolfe Street, Room 4533, Baltimore, MD 21205. [kroche@jhsph.edu](mailto:kroche@jhsph.edu)**Sharon R. Ghazarian, PhD,**Johns Hopkins School of Medicine, Division of General Pediatrics and Adolescent Medicine, Mason F. Lord Bldg, Center Tower, 5200 Eastern Ave, Suite 4200 Baltimore, MD 21224. [sghazarian@jhmi.edu](mailto:sghazarian@jhmi.edu)**Todd D. Little, PhD, and**University of Kansas, Department of Psychology, University of Kansas, 1415 Jayhawk Boulevard, Lawrence, KS 66045-7555. [yhat@ku.edu](mailto:yhat@ku.edu)**Tama Leventhal, PhD**Tufts University, Eliot-Pearson Department of Child Development, 105 College Avenue, Medford, MA 02155. [tleventhal@tufts.edu](mailto:tleventhal@tufts.edu)

### Abstract

There is considerable debate regarding the extent to which punitive parenting adversely impacts youth well being. Using an ecological-transactional model of human development, we examined reciprocity and contextual variability in associations between maternal punitive discipline and adolescent adjustment among 1,147 low-income, urban youth followed through adolescence. Longitudinal SEM results indicated that delinquency and depressive symptoms during pre- and early adolescence (Time 1) were associated with increased punitive discipline about a year later (Time 2). When mothers reported less Time 2 neighborhood disorder, punitive discipline at Time 2 was associated with increased delinquency (for boys) and depressive symptoms (for girls) during mid- to late adolescence (Time 3). The costs of punitive discipline for adolescent adjustment are best understood considering the dynamic, transactional, and contextual nature of development.

---

Although many argue that parenting practices such as hitting, threatening, and scolding negatively affect youth (American Academy of Pediatrics, 1998), individual interpretations and experiences of punitive discipline may vary by important cultural and contextual factors (Gershoff, 2002). For example, in studies using community samples, punitive discipline was associated with more externalizing behaviors among European American, but not African American, adolescents (Deater-Deckard & Dodge, 1997; Lansford, Deater-Deckard, Dodge, Bates & Pettit, 2004). Corporal punishment, one form of punitive parenting entailing physical discipline, also has been linked to problem behavior more strongly among White and Latino, compared to African American, pre-adolescent youth (Eamon, 2001; McLeod & Nonnemaker, 2000). Given that racial and ethnic minority families often experience more economic strain and distressed neighborhood conditions than do White, non-Hispanic families, researchers speculate that ecological conditions might explain racial and ethnic discrepancies in the parenting literature (Dodge, McLoyd & Lansford, 2005).

In this study, we use longitudinal data on a sample of predominately minority youth from low-income, urban neighborhoods to explore reciprocity and contextual variability in associations between maternal punitive discipline and adolescent adjustment. This work is guided by ecological-transactional models of human development, which posit that youth adjustment evolves from reciprocal transactions between youth and families and is nested within culture and context (Cicchetti & Rizley, 1981). Our conceptual framework, depicted in Figure 1, illustrates bidirectional pathways between punitive discipline and adolescent adjustment and indicates that the neighborhood context, specifically disorder (e.g., crime, gangs, drug dealing), may modify associations between punitive discipline and adolescent adjustment from early to middle to late adolescence. Exploring reciprocity and contextual variability in associations between punitive parenting and youth adjustment is especially important in studies of poor, urban families, particularly those of color, because neighborhood disorder is disproportionately more problematic within low-income, central cities than in other areas. As youth and families of color may interpret punitive discipline as a means of ensuring youth's survival and success in dangerous neighborhoods, punitive discipline may have fewer adverse impacts on youth within disordered neighborhoods (Dodge et al., 2005; Mosby, Rawls, Meehan, Mays & Pettinari, 1999).

### **Punitive Discipline and Adolescent Adjustment**

Punitive discipline practices have been associated with a range of adverse adolescent outcomes (Bronstein et al., 1996). Among youth at risk of dropping out of school, for example, punitive discipline was positively associated with youth anxiety, depressive symptoms, and externalizing behavior regardless of parent affection and attachment (Bender et al., 2007). As with effects of other parenting practices on youth adjustment, punitive discipline impacts on youth outcomes likely vary by youth age and gender, although findings for gender variations are mixed. Using seven years of longitudinal data, Pettit and colleagues found that harsh parental discipline experienced during childhood was associated with reductions in girls' (not boys') peer-oriented social skills from childhood to early adolescence (Pettit, Bates & Dodge, 1997). Other research, however, indicated that punitive parenting was more strongly associated with delinquency among adolescent boys than girls (Grogan-Kaylor, 2005). Punitive discipline may have stronger impacts on youth adjustment during early, compared to late, adolescence due to the greater salience of parenting influences during earlier phases of adolescence (Collins & Steinberg, 2006). Punitive discipline must also be considered in light of other aspects of the parent-youth relationship. Mothers' physical punishments, for example, were shown to no longer be associated with heightened aggression and poor psychological well being among adolescents when accounting for low levels of parent involvement (Simons, Johnson, & Conger, 1994).

Links between punitive discipline and youth adjustment may be driven in part by child effects (Huh, Tristan, Wade, & Stice, 2008). Patterson's coercion theory posits a circular pattern of negative parent-youth interactions, whereby parents with a limited capacity to exert firm, consistent, and non-harsh discipline lead youth to engage in problem behaviors. In reaction, parents escalate using inconsistent and harsh discipline which, in turn, increases youth antisocial behaviors (Patterson, Reid & Dishion, 1992). The extent of child- versus parent-driven effects likely depends upon the domain of adjustment (Coley, Votruba-Drzal, & Schindler, 2008). Among urban, African American and European American girls, Hipwell and colleagues (2008) found that harsh punishments were associated with increases in girls' conduct problems and depressive mood from ages 7 to 12 but that only conduct problems (not depressive mood) led to increases in harsh parenting. We thus posed the following research question: "To what extent do associations between maternal punitive discipline and adolescent adjustment reflect parent-versus child-driven effects?" As youth transition through early adolescence, we expect to find that punitive discipline will lead to increases in

youth delinquency and depressive symptoms but that youth delinquency - not depressive symptoms - will result in increased punitive discipline. The expectation for differential impacts of delinquency versus depressive symptoms on punitive discipline is based on the idea that parents will not react punitively to relatively covert forms of youth maladjustment such as depressive symptoms (Hipwell et al.).

### **Neighborhood Disorder: A Modifying Influence on Parent-Adolescent Relations**

Influences of punitive discipline on adolescent adjustment may vary depending upon the contexts in which families live. Several scholars speculate that youth in more vulnerable, urban communities interpret parents' strict punishments as more necessary and acceptable than do youth in more advantaged communities (Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999; Simons, Simons & Wallace, 2004). If youth in dangerous neighborhoods connote punitive parenting with ideas of safety and protection, then punitive discipline likely will have less adverse effects on youth well being in more disadvantaged, compared to advantaged, neighborhoods. Consistent with this line of reasoning, research has shown that permissive and disengaged parenting is more strongly related to greater youth delinquency and depressive symptoms as neighborhood disadvantage increases (Natsuaki et al., 2007; Rankin & Quane, 2002; Roche, Ensminger & Cherlin, 2007). Thus, youth problem behaviors may be amplified as neighborhoods dangers increase *and* when parents do little to regulate youth behaviors.

Broken-windows theory suggests that neighborhood disorder is an important indicator of the social investments present in a neighborhood (Skogan, 1990). According to this theory, a disordered neighborhood – one marked by gangs, illicit drug trades, unkempt and vacant housing, unsupervised youth, and muggings – signifies a lack of community concern whereby residents begin to disinvest in the neighborhood and urban decline is set in motion. Neighborhood disorder has been positively linked to adult stress, depression, poor physical health, and fear of crime (Hill, Ross & Angel, 2005; Ross & Jang, 2000) and to adolescent depression and low self-esteem (Haney, 2006; Natsuaki et al., 2007). The psychological costs of neighborhood disorder for individuals are likely to spill over into the dynamic parent-child relationship. Stress and anxiety may lead parents to more quickly resort to punitive discipline to control youth behaviors, but this discipline may further enhance the misbehavior it is intended to assuage. Yet, concerns about safety in more disordered neighborhoods may cause youth to appreciate parents' needs to be more punitive and/or to interpret punitive parenting in a more positive light in the face of more neighborhood dangers. If youth appreciate that parents have little room for error when raising adolescents in more threatening neighborhood contexts (Furstenberg et al., 1999), youth may not associate punitive parenting with parents' rejection and/or mistreatment. We thus addressed the research question: “Does neighborhood disorder modify impacts of punitive discipline on youth adjustment from early through late adolescence?” Our hypothesis was that punitive discipline would be less harmful to youth adjustment in more disordered neighborhoods. However, we also anticipated that some structural pathways linking neighborhood disorder, punitive discipline and youth adjustment would vary by youth developmental stage and gender. First, as neighborhood-effects research has shown stronger impacts of neighborhood conditions on the behaviors of adolescent males compared to females (Leventhal et al., 2009), we hypothesized that neighborhood disorder would modify punitive discipline impacts on youth adjustment more strongly among males. Second, we expected that neighborhood modifying influences would be more apparent during later as compared to earlier phases of adolescence, whereas parenting effects would be more salient to youth adjustment during early, as compared to later, adolescence. This is because extrafamilial settings become more influential (and parenting influences become less salient) to youth development as individuals progress through adolescence (Collins & Steinberg, 2006).

## Summary

As informed by the review of literature, our conceptual framework integrates ideas from coercion and broken-windows theories with an ecological-transactional model of human development (Figure 1). We anticipated that punitive discipline would be associated with increases in youth delinquency and depressive symptoms but that only youth delinquency would lead to later increases in punitive discipline. Further, we expected that punitive discipline would be associated less strongly with youth maladjustment in more disordered neighborhoods. Although hypotheses regarding bidirectionality were tested using data from early (Time 1) to early and middle (Time 2) adolescence, we did not consider impacts of early and middle adolescent (Time 2) youth adjustment on middle/late adolescent (Time 3) punitive discipline. Our reason for limiting analyses of punitive discipline to early and middle adolescence is that parents' hitting behaviors likely represent more abusive than disciplinary behaviors at Time 3, when most youth are 17- to 20-years old, than would be the case during earlier phases of adolescence.

Ecological-transactional models of human development and our review of the literature indicate that neighborhood conditions and the parent-youth relationship partly are a function of the characteristics of youth, families, and the neighborhoods in which families live. Our model thus accounts for influences of neighborhood poverty, the household income-to-needs ratio, mother-youth closeness, maternal psychological distress, family residential mobility, and youth gender, race/ethnicity, and age. As noted earlier, we expected some structural pathways linking neighborhood disorder, punitive discipline and youth adjustment to vary by youth developmental stage and gender. In addition, we also examined racial and ethnic variations in structural pathways because migration and discrimination experiences may differ across racial and ethnic groups, and thus may shape how context and parenting are experienced (Garcia-Coll et al., 1996). We did not have a priori expectations for racial/ethnic differences due to a paucity of previous research guiding such hypotheses.

## Methods

### Design

We used data from "Welfare, Children and Families: A Three-City Study (Cherlin, 1999), a study of low-income families in Boston, Chicago, and San Antonio neighborhoods, for this study. A multi-stage, stratified, area probability sampling of dwelling units was used to identify clusters of census block groups from which eligible households were identified. Among census blocks with at least 20 percent of residents living below the federal poverty line (based on the 1990 Census), eligible households included female or couple headed households with incomes below 200% of poverty and children under age 4 or ages 10 through 14. A total of 2,458 child and female-caregiver pairs responded to in-home, computer-assisted personal interviews (Automated Computer Assisted Survey Interviews were conducted for sensitive questions). Interviews were conducted at three time points: in 1999 (T1); 2000/1 (T2; response rate 88%); and 2005/06 (T3; response rate 84%). Consent was obtained from adolescent and adult respondents who were fully informed about the study. Spanish-language surveys were administered for respondents not completely comfortable with English. Because 90% of female caregivers were biological or adoptive mothers, we refer to them as "mothers." For a detailed description of the study design and methods, see Winston and colleagues (1999).

We selected mother-child pairs for youth aged 10 to 14 at T1 (less than 1% were age 15 by the time of the interview). Among these 1,147 youth, the sample was roughly equivalent by gender. Most youth were African American (44%) or Latino, including Mexican Americans (22%), Puerto Ricans (13%), and "other" Latinos (mostly Dominican Republican; 11%).

Ten percent of youth were White, non-Hispanic. Most youth (67%) lived with a biological mother only. Other household structures included two biological parents (8%), biological mother and kin (9%), biological mother and a stepfather or male partner (8%), and kin only (e.g., grandmother, aunt, stepmother; 10%).

We imputed missing data due to item non-response (10%) or to attrition at T2 (11%) or T3 (29%) with a maximum likelihood based expectation-maximization (EM) algorithm using Proc MI in SAS 9.0 (SAS Institute, 2003). We used the multiple EM approach because it allows us to include a broad array of auxiliary variables that increase the likelihood of representing the MAR missing data mechanism (Schafer & Graham, 2002). This approach uses a conditional distribution and addresses problems of uncertainty by estimating each missing value using several simulated values. Analyses conducted on complete-case data or that do not use a procedure like the EM approach are known to produce biased results. The EM approach with auxiliary variables is one of the best-practice modern missing data imputation methods that produce unbiased results (Enders, in press).

## Analysis

We used confirmatory factor analytic methods in a structural equation modeling (SEM) framework to develop latent constructs for neighborhood disorder, punitive discipline, youth depressive symptoms, and youth delinquency. We used effects-coding methodology to set scales for latent constructs. Effects coding ensures that latent variable estimates are in the metric of observed variables and, thus, have meaningful interpretations (Little, Slegers, & Card, 2006). For neighborhood disorder and youth adjustment (but not punitive discipline), we used item parceling techniques due to the large number of items measuring these constructs. Thus, rather than single items, averaged aggregates of two or three items comprised indicators for latent constructs. The advantages of parcels over single items include greater reliability, more communality, a higher ratio of common-to-unique factor variance, reductions in distributional violations, and decreased chance for correlated residuals or dual loadings (Little, Cunningham, Shahar, & Widaman, 2002). We calculated internal reliabilities (i.e., Cronbach's alpha) for each scale using parceled indicators.

Our structural models examined delinquency and depressive symptoms separately. In both sets of models, we accounted for within-time correlations between delinquency and depressive symptoms. Further, all T1 latent variables were regressed on T1 study background variables and each T3 youth outcome was regressed on family residential mobility. Tests of reciprocity between punitive discipline and youth adjustment were accomplished by including bidirectional paths between discipline and youth adjustment at T1 and T2. In order to explore neighborhood modifying influences, we tested (in separate models) two-way interactions between neighborhood disorder and punitive discipline at T1 and T2. We examine gender and race/ethnic differences for interaction effects by following Little, Card, Slegers and Ledford's (2007) procedures for conducting multiple group SEM. (Due to small cell sizes, Latino populations had to be grouped and White non-Hispanics could not be included for analyses involving race/ethnic comparisons.) Analyses were completed using MPlus 5.12 due to its integrated capacity for testing interaction effects between two continuous latent variables (Muthen & Muthen, 2008). Models were weighted using T1 normed child weights which account for sample stratification and non-response (Winston et al., 1999).

## Measures

Table 1 provides detailed information on items and parcels for each study measure.



**Punitive discipline**—Mothers responded to items derived from parenting scales developed under guidance of leading psychologists with expertise in Latino and African American families (Winston et al., 1999). The four T1 and T2 items indicated the frequency of spanking/hitting, scolding, and threatening to spank/hit or threatening to punish. Response categories included *1 = never in past 12 months*; *2 = a few times*; *3 = once a month or more*; *4 = once a week or more*; and, *5 = almost everyday* ( $\alpha = .70$ , T1;  $\alpha = .73$ , T2). Indicator loadings ranged from .47 to .81.

**Neighborhood disorder**—At T1 and T2, we used mother reports of neighborhood disorder, as measured by existing scales (see Sampson & Raudenbush, 2004). We created three parcels from nine items (responses included *1 = not a problem*, *2 = somewhat of a problem*, and *3 = a big problem*). Higher scores indicated greater disorder ( $\alpha = .85$  at T1 and T2). The first indicator assessed abandoned housing, gangs, and drugs/drug dealing; the second measured problems with unsupervised children, police who are unavailable, and children with whom mothers do not want their child to associate; and the third assessed burglaries, assaults/muggings, and unsafe streets. Indicator loadings, which ranged from .76 to .86, represented estimates of the reliability for each indicator of the neighborhood disorder latent construct (Melby, Conger, Ge & Warner, 1995).

**Depressive symptoms**—Youth responded to six items from the Brief Symptom Inventory (Derogatis, 1982) to indicate depressive symptoms during the past seven days. The first parcel indicated youth having no interest in things and feeling lonely; indicator two measured feeling blue and worthless; and, the third indicator assessed hopelessness and thoughts of ending one's life. Response categories to the items fell along a 5-point Likert scale ranging from *1 = not at all* to *5 = extremely* ( $\alpha = .78$ , T1;  $\alpha = .82$ , T2 and T3). Indicator loadings ranged from .64 to .92.

**Delinquency**—T1 to T3 measures of delinquency were based on youth responses to six items from the National Longitudinal Study of Youth (Borus, Carpenter, Crowley & Daymont, 1982) and the Youth Deviance Scale (Gold, 1970; Steinberg, Mounts, Lamborn & Dornbush, 1991). The items have been used with samples of low-income racial and ethnic minority adolescents (Coley & Chase-Lansdale, 2000; Pittman & Chase-Lansdale, 2001). The first parceled indicator assessed weapon carrying and stealing; the second measured getting in trouble with the police and damaging property; and the third included attacking someone and fighting ( $\alpha = .67$ , T1;  $\alpha = .77$ , T2;  $\alpha = .73$ , T3). Responses for each item included *1 = never*, *2 = once or twice*, *3 = several times*, and *4 = often*. Indicator loadings ranged from .62 to .84 (males) and from .47 to .71 (females). Measurement invariance across gender is described later.

**Background variables**—Adolescent background variables included gender (boys were omitted group), age (measured in years), and race/ethnicity. Race/ethnicity was dummy coded and included African American (reference group), Mexican-American, Puerto Rican, “other” Latino, and White, non-Hispanic. Family demographic variables included household income-to-needs ratio, neighborhood poverty, and residential mobility. The household income-to-needs ratio was measured by the ratio of household total yearly income-to-family poverty threshold (range: 0 - 3.48;  $M = .74$ ,  $SD = .56$ ) based on mother reports of household income. Neighborhood poverty, measured using data from the 2000 US Census, indicated the proportion of census tract residents with 1999 household incomes below the federal poverty line. Participants lived in neighborhoods where, on average, 32% of residents lived below poverty (range: 4% to 78%;  $SD = .13$ ). Family residential mobility, was a dummy variable assessing mother reports that the family had moved from Time 1 to Time 3.

We included T1 measures of mother-reported maternal psychological distress and youth-reported closeness to mother as a result of significant correlations among study variables with youth adjustment and punitive discipline. Psychological distress is a summated scale based on the 18-item Brief Symptom Inventory, which combines depressive symptoms, anxiety, and somatization subscales into an overall measure of distress (Derogatis, 1982). Values on the scale ranged from 31 to 81 ( $M = 48.05$ ,  $SD = 11.53$ ;  $\alpha = .91$ ), with higher scores indicating greater distress. Mother-youth closeness was assessed using principal components analysis of six youth-reported items on trust, open communication, acceptance, and care in the mother-youth relationship. These items all loaded on a single factor. Values on the scale ranged from 7 to 30 ( $M = 25.05$ ,  $SD = 4.47$ ;  $\alpha = .77$ ), with higher scores indicating greater closeness.

## Results

### Measurement Models: Establishing Invariance

Following Little (1997), we began with measurement models testing the invariance (or equivalence) of latent constructs across gender. Weak and strong criteria were used to establish invariance across gender. Weak invariance is indicated by the equivalence of factor loadings across male and female models; strong invariance is indicated by the equivalence of latent constructs' intercepts across gender. The Comparative Fit Index (CFI) was used to determine whether models with constrained loadings (for weak invariance) across gender were significantly different from configural (unconstrained) models and whether models with constrained intercepts (for strong invariance) were significantly different from weak (unconstrained loadings) models. Although CFIs for depressive symptoms models suggested measurement equivalence across gender ( $\Delta CFI = .003$  from configural to weak;  $\Delta CFI = .009$  from weak to strong), there was an unacceptable change in CFI from configural (unconstrained) to weak (constrained factor loadings) invariance models for delinquency ( $\Delta CFI = .021$ ). See Cheung and Rensvold (2002) for an explanation of measurement invariance tests. Delinquency models were thus examined separately for boys and girls. Using these same techniques, we also established strong measurement invariance across race/ethnicity and time for depressive symptoms and delinquency. The established measurement invariance permitted comparisons of latent means and structural parameters across race/ethnicity, gender (for depressive symptoms), and time.

### Structural Models: Within and Across Time Associations

As shown in Figures 2 and 3, there were significant correlations within and across time among latent constructs. Among correlations between variables measured at the same time point, we found significant positive associations between punitive discipline and depressive symptoms among all youth and between punitive discipline and delinquency among girls. Although we do not show correlations between the two forms of youth adjustment or between latent constructs and background variables (results available from authors), the correlations generally were consistent with previous research. Positive correlations between depressive symptoms and delinquency were most consistent and strongest among adolescent girls.

### Testing Reciprocal Associations between Punitive Discipline and Adolescent Adjustment

Coefficients for the bidirectional paths linking punitive discipline and youth adjustment from T1 to T2 suggested that child effects on punitive discipline dominated during this phase of adolescence. T1 depressive symptoms (Figure 2) and T1 delinquency (Figure 3) were each associated with significant increases in T2 punitive discipline. Delinquency effects on punitive discipline were marginally significant for boys. Although reciprocity was

not examined as youth transitioned into middle/late adolescence, there were no significant direct paths from T2 punitive discipline to youth depressive symptoms or delinquency at T3.

### **Does Neighborhood Disorder Modify Associations Between Punitive Discipline and Adolescent Adjustment?**

Tests of two-way interactions (full model results available from authors) suggested that higher levels of neighborhood disorder mitigated detrimental effects of punitive discipline on youth adjustment from T2 to T3 (but not from T1 to T2). Results from multiple group SEM indicated that punitive discipline X neighborhood disorder interactive effects were unique to youth domain of adjustment and gender but were not different between African American and Latino youth (we were unable to compare to White non-Hispanics due to the low sample size). The T2 neighborhood disorder-by-punitive discipline interaction was associated significantly with adolescent females' T3 depressive symptoms and with adolescent males' T3 delinquent behaviors. For girls, punitive discipline was associated with increased depression ( $\beta = .37$ ,  $SD = .17$ ,  $p < .05$ ) but the relation was modified by an interaction with neighborhood disorder (coefficients were  $\beta = -.25$ ,  $SD = .14$ ,  $p < .10$  for neighborhood disorder and  $\beta = -.25$ ,  $SD = .12$ ,  $p < .05$  for the interaction). For boys, punitive discipline was not associated with delinquency ( $\beta = .13$ ,  $SD = .09$ ,  $n.s.$ ) but the relation was modified by neighborhood disorder (coefficients were  $\beta = -.06$ ,  $SD = .07$ ,  $n.s.$  for neighborhood disorder and  $\beta = -.17$ ,  $SD = .09$ ,  $p = .05$  for the interaction). Using results from gender-specific models, we analyzed the interactions between these continuous latent variables by plotting changes in youth adjustment associated with one standard deviation above and below the means of neighborhood disorder and punitive discipline. As shown in Figure 4, punitive discipline was associated more strongly with increases in female depressive symptoms as mothers reported less neighborhood disorder. Similarly, punitive discipline was associated with increases in male delinquency only when mothers reported low to moderate levels of neighborhood disorder (Figure 5).

## **Discussion**

Reflecting our interest in a contemporary approach to parenting research (Collins, Maccoby, Steinberg, Hetherington, Bornstein, 2000), we used longitudinal data to explore reciprocity and contextual variations in associations between punitive discipline and youth adjustment from early to late adolescence. Consistent with ecological-transactional models of human development (Cicchetti & Rizley, 1981), results demonstrated potential youth effects on mothers' use of punitive discipline during early and middle adolescence and suggested that associations among punitive parenting and youth adjustment were conditioned upon levels of neighborhood disorder. Reflecting the complexity of parents' socialization influences, punitive discipline was also differentially related to youth adjustment from early to late adolescence as a function of both the domain of adjustment and adolescent gender. Pathways linking youth, parent, and neighborhood factors were similar for African Americans and Latinos. Reported associations also persisted regardless of several factors including family income, neighborhood poverty, closeness between mothers and their youth, and maternal psychological distress. Gender-specific findings underscore the importance of neighborhood as particularly salient to the delinquent behaviors of adolescent boys and to depressive symptoms for adolescent girls.

### **Punitive Discipline and Youth Adjustment: Understanding Reciprocity**

Our results validate longstanding theory and research recognizing youth contributions to parenting behaviors (Bell, 1979; Collins et al., 2000). The findings also partially supported our hypothesis regarding youth-driven effects. Although we anticipated that only delinquency would elicit punitive discipline responses by parents, both forms of youth



adjustment, not just delinquency, were associated with changes in punitive discipline from early to middle adolescence. Generalized child effects during early adolescence suggest that both internalizing and externalizing symptoms may cause mothers to experience similar emotional processes and perceptions motivating the use of punitive discipline. The mechanisms linking youth depressive symptoms to maternal psychological processes may differ, however, from those for delinquent behavior. For example, youth depressive symptoms may elicit maternal feelings of anger, frustration and perceived parental inefficacy based on perceptions of the youth being lazy, uninterested in life, and/or not contributing to family life in productive ways. In a different way, mothers of delinquent youth also may harbor negative emotions and perceptions. For them, the psychological response may be due to delinquent youth being uncooperative at home, experiencing run-ins with police, affiliating with undesirable peers, and/or being sanctioned by school personnel. In both scenarios, the result may be the same: perhaps perceiving inefficacy in previous parenting efforts and feeling frustrated and angry regarding current youth behaviors, mothers may resort to the increased use of threats, scolding, and physical punishments to curtail undesirable youth behaviors. Future research assessing parents' experiences, perceptions, and appraisals of child depressive symptomology and delinquent behaviors will help elucidate the processes relating different types of youth adjustment to elevated punitive parenting.

Contrary to hypotheses, our results did not provide evidence for the significance of paths from punitive discipline in early adolescence to adolescent adjustment in early to middle-adolescence (Hipwell et al., 2008; Laird, Pettit, Bates & Dodge, 2003; Vuchinich et al., 1992). As parent-child relationships begin to include more mutual interactions, with less domination by parents during middle adolescence, youth behaviors might play a stronger role in shaping parenting behaviors than is the case in earlier stages of development (Thornberry, 1987). Although our findings might support some scholars' contentions that child effects on parenting are more powerful than are the reverse (Huh et al., 2006; Kerr & Stattin, 2003), at least during early adolescence, parenting effects from middle to late adolescence did emerge in the current study when examining both depression and delinquency models by gender. Parenting effects for youth delinquency from T2 to T3 were apparent only when neighborhood disorder was taken into consideration. Results suggest that neighborhood disorder also modifies parenting effects for female depressive symptoms, although direct effects also emerged linking punitive discipline and depressive symptoms among girls. These findings suggest that parenting effects may still be salient for adolescent outcomes of delinquency and depression in middle/late adolescence, but that the effects are specific to youth gender. The lack of direct parenting effects for the whole sample, however, is consistent with scholarship suggesting that punitive discipline may not be as detrimental to adjustment among low-income African American and Latino youth as to the adjustment of more affluent or White youth (Dodge et al., 2005). Previous research suggests that low-income, urban youth of color ascribe less negative meanings to punitive discipline than do other youth. Jackson-Newsom, Buchanan and McDonald (2008), for example, found that adolescent perceptions of mothers using harsher discipline were more strongly aligned with perceptions of low maternal warmth for European American, compared to African American youth. It is possible that the findings for direct parenting effects in the current study may have been stronger if we had examined other ethnic or income groups. Finally, we acknowledge that the 18-month lag between the administration of Time 1 and Time 2 surveys was possibly too long to capture reciprocity between parenting (as a direct effect or as part of an interaction with neighborhood disorder) and youth adjustment (Rueter & Conger, 1998).

### Neighborhood Disorder: Mitigating Effects on the Adverse Impacts of Punitive Discipline

Our second set of hypotheses centered on how neighborhood disorder modified associations between punitive discipline and youth adjustment. Consistent with expectations, punitive discipline practices were more strongly tied to late adolescents' poor adjustment when mothers perceived that their neighborhoods had fewer problems with disorder and, hence, were safer environments for raising youth. Importantly, neighborhood-by-parenting interactions were significant in models of depressive symptoms only among adolescent females and in models of delinquency only among adolescent males. The fact that interactions were unique to adolescent gender and specific domain of adjustment likely reflected the fact that girls tend to suffer disproportionately from internalizing symptomatology, whereas, boys are more engaged in externalizing behaviors (Galambos, Berenbaum, & McHale, 2009).

That neighborhood disorder mitigated the harmful effects of punitive discipline on youth adjustment is highly consistent with research demonstrating that a laissez-faire approach to parenting is especially harmful to adolescent adjustment in a context of greater neighborhood disadvantage (Rankin & Quane, 2002; Roche et al., 2007). The presence of tangible threats to safety, such as those posed by gangs, drug dealing, assaults, and unsupervised and undesirable youth, may alter the value that adolescents place on autonomy and the perceptions that youth have regarding the legitimacy of punitive discipline as a form of parental authority. For example, in less disordered neighborhoods, higher levels of punitive discipline may cause youth to feel unnecessarily over regulated and result in increased youth externalizing and internalizing behaviors. In contrast, greater neighborhood disorder may cause youth to interpret their mothers' use of punitive discipline as justified and necessary for ensuring adolescent safety. The credibility of this argument appears to be especially pertinent to male externalizing behaviors and female internalizing behaviors.

### Study Limitations and Implications for Future Research

There are important limitations to this study. Measurement intervals between surveys limited our examination of child effects on parenting at Time 3 (due to the questionable meaning of punitive discipline in late adolescence) and the 18-month lag between T1 and T2 surveys may have been too long to capture reciprocity between parenting and early adolescent adjustment. We were also limited because adolescents reported on both maternal discipline and youth adjustment, thereby risking inflated results due to shared method variance. Results from correlated uniqueness models (available from authors; Conway, 2004), however, did not suggest correlated method bias, and support the validity of findings for structural paths linking youth adjustment and punitive discipline. Finally, sample size limitations necessitated that we combine different Latino populations into a single ethnic group and did not allow for comparisons of White, non-Hispanics with other racial/ethnic groups in multi-group analyses.

Although we examined impacts of mothers' punitive discipline on youth adjustment (the Three City Study did not assess paternal punitive discipline), future research would benefit from a focus on fathers' punitive discipline. Fathers appear to contribute to a substantial proportion of harsh parenting (Straus, Gelles & Steinmetz, 1980; Sunday et al., 2008), and fathers' harsh discipline has been linked to the same negative impacts on youth aggression (for boys and girls) as has mothers' harsh discipline (Prinz, Onghena, & Hellinckx, 2006). We speculate that paternal punitive discipline may be especially salient to the emotional and behavioral adjustment of boys, compared to girls, due to fathers' more active role in the parenting of adolescent males than females (Simons, Whitbeck, Conger & Chyi-In, 1991). Research by Coley and Medeiros (2007) suggests the potential utility of considering even non-resident fathers' parenting practices for youth adjustment. Using data from the Three-

City Study, these authors found that non-resident father involvement was associated with declines in adolescent delinquent behaviors, especially for youth engaged in early delinquency (Coley & Medeiros, 2007).

## Conclusions

The research presented here was unique in its use of longitudinal, latent variable modeling techniques for examining contextual variability in reciprocal associations between punitive discipline and adolescent adjustment among a vulnerable population of youth. Our results suggest that, at least for low-income, urban youth, the costs of punitive discipline to adolescents' emotional and behavioral well being are best understood by considering the dynamic, transactional, and contextual nature of youth development.

## Acknowledgments

This study was supported by the Maternal and Child Health Bureau (Title V, Social Security Act), Health Resources and Services Administration, Department of Health and Human Services grants (R40 MC09719, T. Leventhal). We acknowledge core support to the Three-City Study from the National Institute of Child Health and Human Development through grants HD36093 and HD25936, as well as the support of many government agencies and private foundations. For a complete list of funders, please see [www.threecitystudy.jhu.edu](http://www.threecitystudy.jhu.edu). The authors would like to thank Paula Fomby for her assistance with the preparation of data.

## References

- American Academy of Pediatrics. Guidance on effective discipline. *Pediatrics*. 1998; 101:723–728. [PubMed: 9521967]
- Bell RQ. Parent, child and reciprocal influences. *American Psychologist*. 1979; 34:821–826.
- Bender HL, Allen JP, McElhaney KB, Antonishak J, Moore CM, Kelly HO, Davis SM. Use of harsh physical discipline and developmental outcomes in adolescence. *Development and Psychopathology*. 2007; 19:227–242. [PubMed: 17241492]
- Borus, ME.; Carpenter, SW.; Crowley, JE.; Daymont, TN. Pathways to the Future, Volume II: A final report on the National Survey of Youth Labor Market Experience in 1980. Columbus, Ohio: Center for Human Resource Research, The Ohio State University; 1982.
- Bronstein P, Duncan P, D'Ari A, Pieniadz J, Fitzgerald M, Abrams CL, Frankowski B, Franco O, Hunt C, Oh Cha SY. Family and parenting behaviors predicting middle school adjustment: A longitudinal study. *Family Relations*. 1996; 45:415–426.
- Cherlin, AJ. Welfare, Children and Families: A Three-City Study, Wave 1 (Data Set 01-04, Ruiz, R.O., McKean, E.A., & Peterson, J.L.) machine-readable data file and documentation. 1999. Johns Hopkins University (Producer). Los Altos, CA: Sociometrics Corporation, Child Well-being and Poverty Data Archive (Producer & Distributor)
- Cheung GW, Rensvold RB. Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*. 2002; 9:233–255.
- Cicchetti D, Rizley R. Developmental perspectives on the etiology, intergenerational transmission. *New Directions for Child and Adolescent Development*. 1981; 11:31–55.
- Coley RL, Chase-Lansdale PL. Welfare receipt, financial strain, and African-American adolescent functioning. *Social Service Review*. 2000:381–404.
- Coley RL, Medeiros BL. Reciprocal longitudinal relations between nonresident father involvement and adolescent delinquency. *Child Development*. 2007; 78:132–147. [PubMed: 17328697]
- Coley RL, Votruba-Drzal E, Schindler HS. Trajectories of parenting processes and adolescent substance use: Reciprocal effects. *Journal of Abnormal Child Psychology*. 2008; 36:613–625. [PubMed: 18288605]
- Collins AW, Maccoby EE, Steinberg L, Hetherington EM, Bornstein MH. Contemporary research on parenting: The case for nature *and* nurture. *American Psychologist*. 2000; 55:218–232. [PubMed: 10717969]

- Collins, AW.; Steinberg, L. Adolescent development in interpersonal context. In: Eisenberg, N.; Damon, W.; Lerner, RM., editors. *Handbook of Child Psychology, Vol 3, Social, Emotional, and Personality Development* (p. 1003-1067). Hoboken, NJ: John Wiley & Sons Inc; 2006.
- Conway, JM. Method variance and method bias in industrial and organizational psychology. In: Rogelberg, SG., editor. *Handbook of Research Methods in Industrial and Organizational Psychology* (pp. 344 – 365). Malden, MA: Blackwell Publishers; 2004.
- Deater-Deckard K, Dodge KA. Externalizing behavior problems and discipline revisited: Nonlinear effects and variation by culture, context, and gender. *Psychological Inquiry*. 1997; 8:161–175.
- Derogatis, LR. BSI: Administration, scoring, and procedures manual for the Brief Symptom Inventory - First edition. Minneapolis, MN: National Computer Systems; 1982.
- Dodge, KA.; McLoyd, VC.; Lansford, JE. The cultural context of physically disciplining children. In: McLoyd, VC.; Hill, N.; Dodge, KA., editors. *African American family life: Ecological and cultural diversity* (pp. 245–263). New York: Guilford Press; 2005.
- Eamon MK. Antecedents and socioemotional consequences of physical punishment on children in two-parent families. *Child Abuse and Neglect*. 2001; 6:787–802. [PubMed: 11525526]
- Enders, CK. *Applied Missing Data Analysis*. New York, NY: Guilford Press; in press
- Furstenberg, FF.; Cook, TD.; Eccles, J.; Elder, GH.; Sameroff, A. *Managing to Make it: Urban Families and Adolescent Success*. Chicago: The University of Chicago Press; 1999.
- Galambos, NL.; Berenbaum, SA.; McHale, SM. Gender development in adolescence. In: Lerner, RM.; Steinberg, L., editors. *Handbook of Adolescent Psychology (Vol. I)*, pp. 305-357. Hoboken, NJ: Wiley; 2009.
- Garber J, Keiley MK, Martin NC. Developmental trajectories of adolescents' depressive symptoms: Predictors of change. *Journal of Consulting and Clinical Psychology*. 2002; 70:79–95. [PubMed: 11860059]
- Garcia Coll C, Lamberty G, Jenkins R, McAddo HP, Crnic K, Wasik BH, Garcia HV. An integrative model for the study of developmental competencies in minority children. *Child Development*. 1996; 67:1891–1914. [PubMed: 9022222]
- Gershoff ET. Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*. 2002; 128:539–579. [PubMed: 12081081]
- Gold, M. *Delinquent behavior in an American city*. Belmont, CA: Brooks/Cole; 1970.
- Grogan-Kaylor A. Corporal punishment and the growth trajectory of children's antisocial behavior. *Child Maltreatment*. 2005; 10:283–292. [PubMed: 15983111]
- Haney TJ. “Broken windows” and self-esteem: Subjective understandings of neighborhood poverty and disorder. *Social Science Research*. 2006; 36:968–994.
- Hill TD, Ross CE, Angel RJ. Neighborhood disorder, psychophysiological distress, and health. *Journal of Health and Social Behavior*. 2005; 46:170–186. [PubMed: 16028456]
- Hipwell A, Keenan K, Kasza K, Loeber R, Stouthamer-Loeber M, Bean T. Reciprocal influences between girls' conduct problems and depression, and parental punishment and warmth: A six year prospective analysis. *Journal of Abnormal Child Psychology*. 2008; 36:663–677. [PubMed: 18172753]
- Huh D, Tristan J, Wade E, Stice E. Does problem behavior elicit poor parenting? A prospective study of adolescent girls. *Journal of Adolescent Research*. 2008; 21:185–204. [PubMed: 16528407]
- Jackson-Newsom J, Buchanan CM, McDonald RM. Parenting and perceived maternal warmth in European American and African American adolescents. *Journal of Marriage and Family*. 2008; 70:62–75.
- Jarrett RL. African American family and parenting strategies in impoverished neighborhoods. *Qualitative Sociology*. 1997; 20:275–288.
- Kerr, M.; Stattin, H. Parenting of adolescents: Action or reaction?. In: Crouter, AC.; Booth, A., editors. *Children's Influence on Family Dynamics: The Neglected Side of Family Relationships*, pp. 121 - 151. Mahwah, NJ: Lawrence Erlbaum Associates; 2003.
- Laird RD, Pettit GS, Bates JE, Dodge KA. Parents' monitoring-relevant knowledge and adolescents' delinquent behavior: Evidence of correlated developmental changes and reciprocal influences. *Child Development*. 2003; 74:752–768. [PubMed: 12795388]

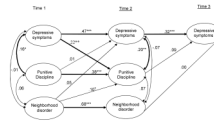
- Lansford JE, Dodge KA, Malone PS, Bacchini D, Zelli A, Chaudhary N, Manke B, Chang L, Oburu P, Palmerus K, Pastorelli C, Bombi AS, Tapanya S, Deater-Deckard K, Quinn N. Physical discipline and children's adjustment: Cultural normativeness as a moderator. *Child Development*. 2005; 76:1234–1246. [PubMed: 16274437]
- Lansford JE, Deater-Deckard K, Dodge KA, Bates JE, Pettit GS. Ethnic differences in the link between physical discipline and alter adolescent externalizing behaviors. *Journal of Child Psychology and Psychiatry*. 2004; 45:801–812. [PubMed: 15056311]
- Le H, Ceballo R, Chao R, Hill NE, Murry VM, Pinderhughes EE. Excavating culture: Disentangling ethnic differences from contextual influences in parenting. *Applied Developmental Science*. 2008; 12:163–175.
- Leventhal, T.; Dupere, V.; Brooks-Gunn, J. Neighborhood influences on adolescent development. In: Lerner, RM.; Steinberg, L., editors. *Handbook of Adolescent Psychology*. 3rd. Vol. 2. New York: John Wiley and Sons; 2009.
- Little TD. Mean and covariance structures (MACS) analyses of cross-cultural data: Practical and theoretical issues. *Multivariate Behavioral Research*. 1997; 32:53–76.
- Little, TD.; Card, NA.; Slegers, DW.; Ledford, EC. Representing contextual effects in multiple group MACS models. In: Little, TD.; Bovaird, JA.; Card, NA., editors. *Modeling Contextual Effects in Longitudinal Studies* (p. 121 – 147). Mahwah, NJ: Lawrence Erlbaum Associates; 2007.
- Little TD, Cunningham WA, Shahar G, Widaman KF. To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*. 2002; 9:151–173.
- Little TD, Slegers DW, Card NA. A non-arbitrary method of identifying and scaling latent variables in SEM and MACS models. *Structural Equation Modeling*. 2006; 13:59–72.
- McLeod JD, Nonnemaker JM. Poverty and child emotional and behavioral problems: Racial/ethnic differences in processes and effects. *Journal of Health and Social Behavior*. 2000; 41:137–161.
- Melby JN, Conger RD, Ge X, Warner T. The use of structural equation modeling in assessing the quality of marital observations. *Journal of Family Psychology*. 1995; 9:280–293.
- Mosby L, Rawls AW, Meehan AJ, Mays E, Pettinari CJ. Troubles in interracial talk about discipline: An examination of African American child rearing narratives. *Journal of Comparative Family Studies*. 1999; 30:489–521.
- Muthen, LK.; Muthen, BO. Mplus Version 5.1. 2008. Retrieved on September 1, 2008. Website: <http://www.statmodel.com>.
- Natsuaki MN, Ge X, Brody GH, Simons RL, Gibbons FX, Cutrona CE. African American children's depressive symptoms: The prospective effects of neighborhood disorder, stressful life events, and parenting. *American Journal of Community Psychology*. 2007; 39:163–176. [PubMed: 17294122]
- Patterson, GR.; Reid, JB.; Dishion, TJ. *Antisocial Boys*. Eugene, OR: Castalia; 1992.
- Pettit GS, Bates JE, Dodge KA. Supportive parenting, ecological context, and children's adjustment: A seven-year longitudinal study. *Child Development*. 1997; 68:908–923.
- Pittman LD, Chase-Lansdale PL. African American adolescent girls in impoverished communities: Parenting style and adolescent outcomes. *Journal of Research on Adolescence*. 2001; 11:199–224.
- Prinz P, Onghena P, Hellinckx W. A cohort-sequential multivariate latent growth curve analysis of normative CBCL aggressive and delinquent problem behavior: Associations with harsh discipline and gender. *International Journal of Behavioral Development*. 2006; 30:444–449.
- Rankin BH, Quane JM. Social contexts and urban adolescent outcomes: The interrelated effects of neighborhoods, families, and peers on African-American youth. *Social Problems*. 2002; 49:79–100.
- Rueter MA, Conger RD. Reciprocal influences between parenting and adolescent problem-solving behavior. *Developmental Psychology*. 1998; 34:1470–1482. [PubMed: 9823526]
- Roche KM, Ensminger ME, Cherlin AJ. Variations in parenting and adolescent outcomes among African American and Latino families living in low-income, urban areas. *Journal of Family Issues*. 2007; 28:882–909.
- Ross CE, Jang SJ. Neighborhood disorder, fear, and mistrust: The buffering role of social ties with neighbors. *American Journal of Community Psychology*. 2000; 28:401–420. [PubMed: 10965384]
- SAS Institute, Inc. SAS 9.1.3. Cary, NC, USA: 2003.



- Sacco, WP. A social-cognitive model of interpersonal processes in depression. In: Joiner, TE.; Coyne, JC., editors. *The Interactional Nature of Depression: Advances in Interpersonal Approaches* (pp. 329 – 351). Washington, D.C: American Psychological Association; 1999.
- Sampson RJ, Raudenbush SW. Seeing disorder: Neighborhood stigma and the social construction of “Broken Windows.”. *Social Psychology Quarterly*. 2004; 67:319–342.
- Schafer JL, Graham JW. Missing data: Our view of the state of the art. *Psychological Methods*. 2002; 7:147–177. [PubMed: 12090408]
- Simons RL, Johnson C, Conger RD. Harsh corporal punishment versus quality of parental involvement as an explanation of adolescent maladjustment. *Journal of Marriage and the Family*. 1994; 56:591–607.
- Simons, RL.; Simons, LG.; Wallace, LE. *Families, Delinquency, and Crime: Linking Society's Most Fundamental Social Institution to Antisocial Behavior*. Los Angeles, CA: Roxbury; 2004.
- Simons RL, Whitbeck LB, Conger RD, Chyi-In W. Intergenerational transmission of harsh parenting. *Developmental Psychology*. 1991; 27:159–171.
- Skogan, WG. *Disorder and Decline: Crime and the Spiral of Decay in American Neighborhoods*. Berkeley, CA: University of California Press; 1990.
- Straus, MA.; Gelles, RJ.; Steinmetz, SK. Spare the rod?. In: Staus, MA.; Gelles, RJ.; Steinmetz, SK., editors. *Behind Closed Doors: Violence in the American Family*, pp. 51 – 75. Garden City, NY: Anchor Books; 1980.
- Steinberg L, Mounts N, Lamborn S, Dornbusch S. Authoritative parenting and adolescent adjustment across various ecological niches. *Journal of Research on Adolescence*. 1991; 1:19–36.
- Sunday S, Labruna V, Kaplan S, Pelcovitz D, Newman J, Salzinger S. Physical abuse during adolescence: Gender differences in the adolescents' perception of family functioning and parenting. *Child Abuse & Neglect*. 2008; 32:5–12. [PubMed: 18082259]
- Thornberry TP. Toward an interactional theory of delinquency. *Criminology*. 1987; 25:863–892.
- Vuchinich S, Bank L, Patterson GR. Parenting, peers, and the stability of antisocial behavior in preadolescent boys. *Developmental Psychology*. 1992; 28:510–521.
- Winston, P.; Winston, P.; Angel, RJ.; Burton, LM.; Chase-Lansdale, PL.; Cherlin, AJ.; Moffitt, RA.; Wilson, WJ. *Welfare, Children and Families: A Three-City Study: Overview and Design*. 1999 [July 10, 2007]. Available at <http://web.jhu.edu/threecitystudy/Publications/index.html>



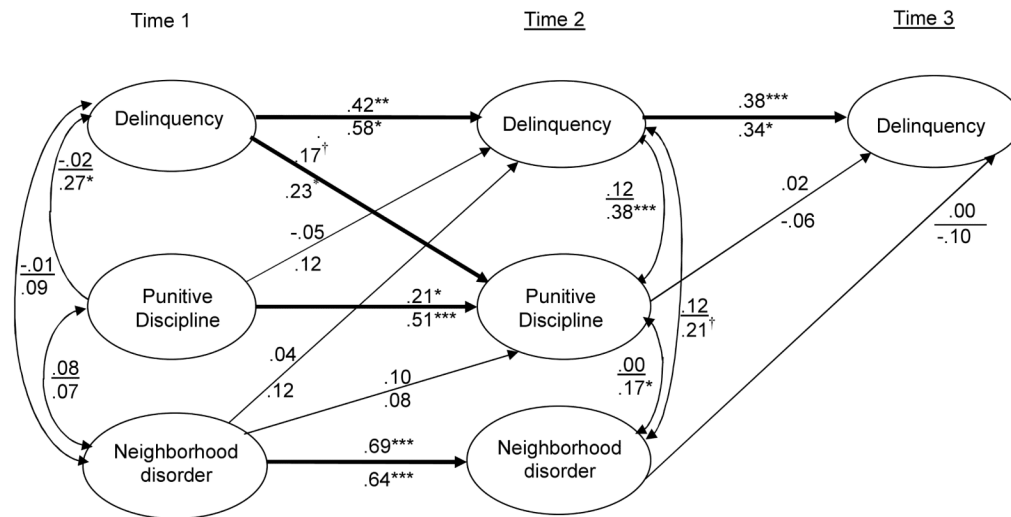
**Figure 1.**  
Conceptual model of reciprocal associations between punitive discipline and youth depressive symptoms and delinquency and how neighborhood disorder modifies associations between punitive discipline and youth adjustment.



**Figure 2. Main Effects Structural Model for Depressive Symptoms**

Standardized coefficients are shown. Significant paths are bolded and marked by significance level. Models control for correlation between youth depression and delinquency at all three time points and for mother-youth closeness, neighborhood poverty, maternal distress, household income-to-needs ratio, residential mobility, and youth race/ethnicity, age, gender. Models weighted to control for sampling stratification and non-response. Model fit statistics:  $\chi^2(729) = 1235.24$ ; CFI = .92; RMSEA = .025 (90% CI: .021, .027).

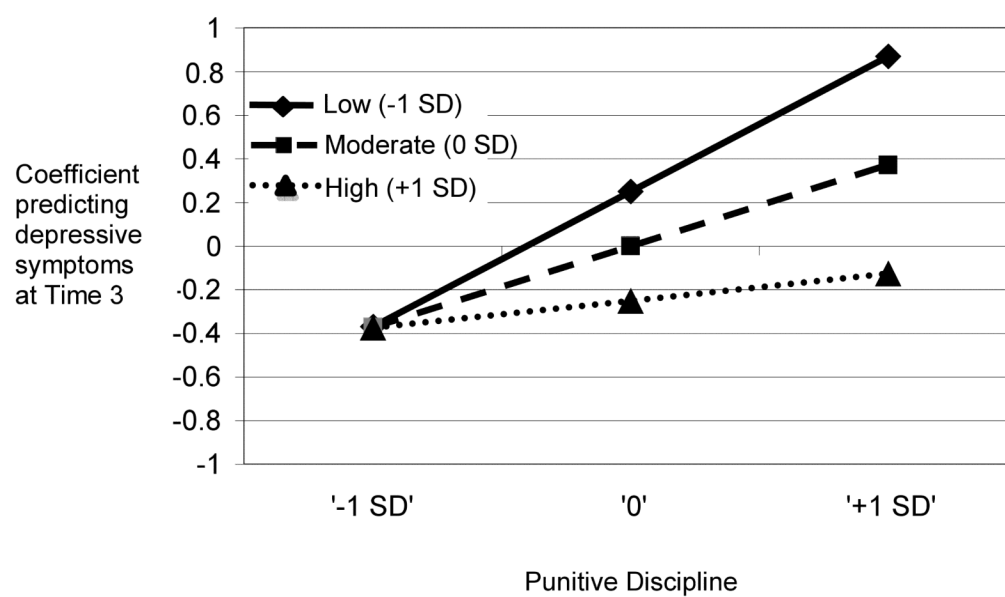
<sup>†</sup> $p < .10$  \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ .



**Figure 3. Main Effects Structural Model for Delinquency, by Gender**

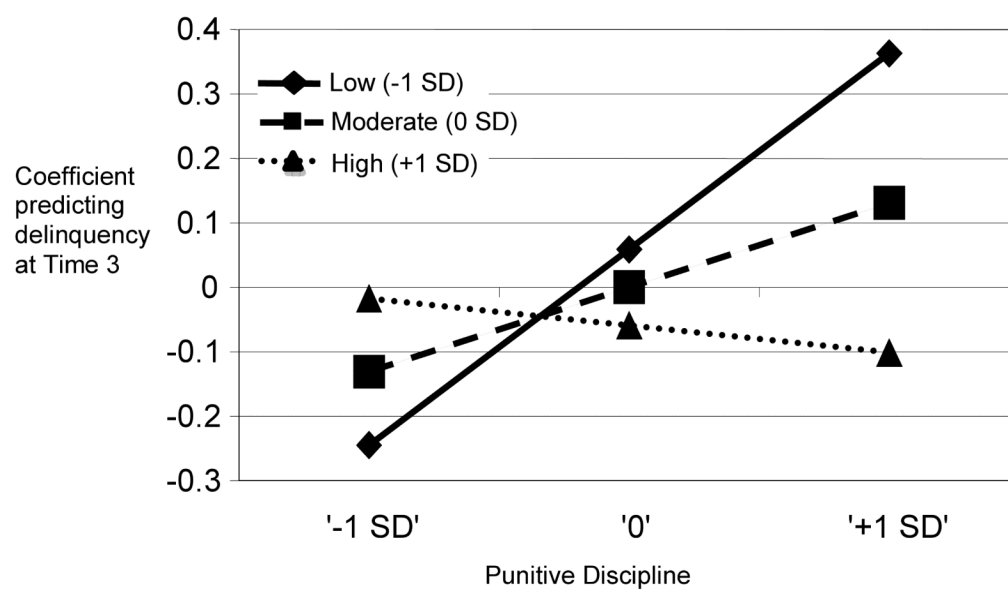
*Notes.* Standardized coefficients are shown (top row: boys; bottom row: girls). Significant paths are bolded and marked by significance level. Models control for correlation between youth depression and delinquency at all three time points and for mother-youth closeness, neighborhood poverty, maternal distress, household income-to-needs ratio, residential mobility, and youth race/ethnicity, and age. Models weighted to control for sampling stratification and non-response. Model fit statistics for boys:  $\chi^2(707) = 1227.36$ ; CFI = .85; RMSEA = .036 (90% CI: .033, .040) and girls:  $\chi^2(707) = 1186.49$ ; CFI = .88; RMSEA = .034 (90% CI: .031, .037)

$^{\dagger}p < .10$   $^{*}p < .05$   $^{**}p < .01$   $^{***}p < .001$ .



**Figure 4. Adolescent Female Depressive Symptoms at Time 3 by Punitive Discipline and Neighborhood Disorder at Time 2**





**Figure 5. Adolescent Male Delinquency at Time 3 by Punitive Discipline and Neighborhood Disorder at Time 2**

**Table 1**  
**Unstandardized (Standardized) Factor Loadings from Final Measurement Models<sup>a</sup>**

Punitive Discipline	Factor Loadings	Neighborhood Disorder	Factor Loadings	Depressive Symptoms	Factor Loadings	Delinquency	Factor Loadings Boys	Factor Loadings Girls
Scold T1	1.10 (.58)	Parcel A - T1 (Housing, Gangs, Drugs)	1.10 (.84)	Parcel A - T1 (No interest, Lonely)	1.19 (.77)	Parcel A - T1 (Weapon, Steal)	.89 (.62)	.75 (.59)
Hit T1	.87 (.65)	Parcel B - T1 (Supervise, Bad kids, Police)	.92 (.76)	Parcel B - T1 (Blue, Worthless)	1.01 (.82)	Parcel B - T1 (Police, Vandals)	.95 (.69)	.93 (.61)
Threaten to hit T1	1.19 (.80)	Parcel C - T1 (Burglary, Assault, Unsafe)	.99 (.81)	Parcel C - T1 (Hopeless, End life)	.79 (.64)	Parcel C - T1 (Fight, Attack)	1.16 (.64)	1.32 (.66)
Threaten to punish T1	.84 (.47)	Parcel A - T2	1.12 (.86)	Parcel A - T2	1.11 (.78)	Parcel A - T2	.85 (.71)	.77 (.64)
Scold T2	1.16 (.63)	Parcel B - T2	.93 (.77)	Parcel B - T2	1.04 (.83)	Parcel B - T2	.99 (.84)	.87 (.71)
Hit T2	.74 (.63)	Parcel C - T2	.96 (.81)	Parcel C - T2	.85 (.73)	Parcel C - T2	1.16 (.74)	1.36 (.71)
Threaten to hit T2	1.17 (.81)			Parcel A - T3	1.13 (.78)	Parcel A - T3	.84 (.67)	.67 (.47)
Threaten to punish T2	.93 (.54)			Parcel B - T3	1.17 (.92)	Parcel B - T3	1.02 (.75)	.94 (.65)
				Parcel C - T3	.70 (.67)	Parcel C - T3	1.14 (.76)	1.40 (.63)

*Note.* Time points indicated by T1 (Time 1), T2 (Time 2), and T3 (Time 3). All parameter estimates significant at  $p < .001$ .